CITY OF LINCOLN, NEBRASKA, STANDARD SPECIFICATIONS

CHAPTER 15

TRAFFIC CONTROL

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15.00 GENERAL

This work shall consist of furnishing and maintaining in place all barricades, warning signs, lights, and other safety devices required to protect the work, divert traffic, warn of open excavations, and other areas or conditions which might be hazardous or dangerous during daylight or darkness.

The Contractor shall maintain traffic during construction and provide, install, maintain and remove all traffic control devices in accordance with these Standard Specifications, the Project Special Provisions, the City of Lincoln Traffic Control Guidelines for Street Construction, Maintenance and Utility Operations (LTCG), the ordinances and regulations of the City of Lincoln, the Manual on Uniform Traffic Control Devices (MUTCD) and the approved Traffic Control Plan (TCP). Failure of the Contractor to erect and maintain approved traffic control devices shall be reason to suspend the work.

There shall be no lane closures on any Arterial Street during peak hours (7:00-8:30 AM and 3:30-6:00 PM) or from noon the day before to noon the day after a University of Nebraska home football game, without prior approval from Public Works and Utilities Department.

The Contractor shall strictly adhere to all time limits and other restrictions as specified. The Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. All traffic control and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation. Signs for temporary operations shall be removed from view during periods of inactivity. The Contractor is required to maintain the project in a manner that is safe to the traveling public and which will not impede vehicles or pedestrians.

15.01 TRAFFIC CONTROL PLAN (TCP)

The Traffic Control Plan (TCP) shall be prepared by a Traffic Control Supervisor (TCS) and shall include detailed drawing(s), showing all traffic control devices or reference to a standard drawing found in the LTCG or the MUTCD. The TCP must meet or exceed the LTCG and MUTCD, provided the referenced standard drawing properly depicts the work area and completely addresses the needed traffic control.

The TCP shall consider, but not be limited to, the following items:

- Signing, Barricades, Drums, Cones, Dynamic Message Boards, and/or any other traffic control devices.
- Worker protection and safety.
- Minimizing delays and economic impacts to traffic.
- Pedestrian protection and safety.
- Construction scheduling and hours of work.
- Flagging.
- Methods and devices for delineation and channelization.

15.01 TRAFFIC CONTROL PLAN (TCP) (Continued)

- Placement and design of barriers and barricades.
- Storage of equipment and materials.
- Removal of construction debris.
- Length of time for lane closures.
- Access for emergency vehicles.
- Clear roadside recovery areas.
- Movement of construction equipment.
- Length of project under construction at any one time.
- Methods of minimizing construction time consistent with safety.
- Construction Speed Zones.
- Modification of the above-noted items as well as any other related items under conditions of darkness or inclement weather.
- Congestion and Incident management techniques.

The Contractor shall submit a signed TCP in writing and/or drawing for the review by the Engineer 1 week prior to proposed work beginning. No phase of construction shall commence until the TCP has been approved with the Engineers signature. The approved TCP shall not be revised without prior approval of the Engineer. TCP revisions shall be submitted a minimum of 3 City business days prior to implementation.

TCPs shall include detailed signing, barricading, and traffic detouring information for each phase or stage of construction including as a minimum: type and number of devices, working hours, number and location of flaggers, and time restrictions.

Copies of the approved TCP shall be available on-site at all times. The Contractor shall provide copies to the Traffic Engineer, Project Manager, Project , and TCS.

The work shall not begin until the approvals have been given and the approved TCP is on the project site. Once the project has begun, the TCS must ensure that the plan is followed throughout the project.

The Contractor shall not exceed the work limits specified for each phase or stage of construction, unless approval to do so is granted by the Engineer.

Should the Contractor fail to maintain the work within the specified limits, the Engineer shall direct that all operations be suspended until the work is returned to the specified limits. Any costs incurred by the Contractor due to such suspension shall be at the Contractor's expense with no additional compensation or time extensions.

The Contractor shall provide any project status changes or updated information to the Engineer on a daily basis.

15.02 TRAFFIC CONTROL SUPERVISOR (TCS)

Before work begins on a project, the TCP shall designate in writing an International Municipal Signal Association (IMSA) or American Traffic Safety Services Association (ATSSA) Certified Traffic Control Supervisor (TCS) to be responsible for the traffic control on the project. The Contractor shall designate a TCS who shall perform the Traffic Control Management and shall be responsible for maintaining all Traffic Control Devices in compliance with the TCP.

The Contractor shall have a TCS available 24 hour per day. The Contractor shall furnish to the City the name and telephone number of the TCS responsible for emergency service. The Contractor shall maintain a 24 hour, 7 days a week (including weekends and holidays) emergency service to remove, install, relocate, and maintain warning devices.

In the event the TCS does not respond immediately or the City deems it necessary to call out other forces to accomplish emergency services, the Contractor shall be held responsible for the cost of such emergency services.

The Traffic Control Supervisor's duties shall include, but not be limited to:

- Preparing, revising, and submitting the TCP as required.
- Direct supervision of certified flaggers. Documentation of all certifications shall be sent to the project manager.
- Coordinating all Traffic Control operations, including all contractors, subcontractors and suppliers.
- Coordinating project activities with appropriate police and fire control agencies.
- Maintaining a project Traffic Control Diary which shall become a part of the project records.
- Inspecting all traffic control items prior to installation to insure that the materials meet the plan and specification requirements.
- Inspecting the installation of the traffic control devices at least twice each calendar day, to determine that they are being properly maintained and cleaned. During these inspections, it is important that the Contractor has covered or removed all traffic control devices that are no longer needed or are no longer applicable. More frequent inspections may be required due to inclement weather; vandalism; or other times when more frequent inspections are warranted.
- Insuring that Traffic Control Devices are functioning as required including periodic nighttime inspections.
- Assuring that proper maintenance is being performed on the traffic control devices.
- Advising the Contractor of all deficiencies.
- Reporting to the Engineer in writing, all known traffic incidents which occur on the project. The TCS shall, to the best of his/her ability, analyze the circumstances involved in the incidents and advise the Engineer of recommended changes in the TCP. An effort will be made by the Engineer to obtain accident reports prepared by law enforcement officers having jurisdiction in the project area. This data will be utilized in evaluating the TCP.
- Overseeing all requirements covered by the TCP which contribute to the convenience, safety and orderly movement of traffic.
- Keeping Engineer informed of the apparent adequacy and effectiveness of the traffic control items on the project.
- Submitting documents including the Traffic Control Diary.

15.03 TRAFFIC CONTROL DIARY (TCD)

A Traffic Control Diary (TCD) is a daily record of events for the project. The TCD shall be a complete record of devices and traffic control sets used, as well as documenting any issues or concerns arising in connection with the flow of traffic or pedestrians through the work zone.

The TCD shall be a hardbound book. The following information shall be placed on the cover: project name and number; General Contractor's name, TCS's name and the company providing traffic control.

As a minimum, the following information shall be recorded during the daily entries into the TCD: name of the traffic control inspector; time and date of daily inspections; TCP being used; roadway and sidewalk conditions; construction activity occurring; a list of devices in place; any permanent or temporary signing changes made; any permanent or temporary pavement marking changes made; names of flaggers and why they were used; a log of devices that were cleaned, maintained and/or replaced; conversations with the engineer or their representative regarding traffic control; any calls requiring a work site visit and actions taken; incidents that occur within the work zone, including time, a description of what happened, a police case number, and any action that was taken in regard to the traffic control; and any law enforcement occurring within or adjacent to the work zone. The daily entries shall be signed by the Traffic Control making the entry.

At the completion of the project, the TCD shall be given to the Engineer as a record of the traffic control on the project. The TCD shall be provided prior to final payment being made.

15.04 TRAFFIC CONTROL DEVICES

The Contractor shall take all necessary precautions for the protection of the work and the safety of the public. The initial placement, replacement, and removal of the lane dividers and other traffic control devices shall be done with extreme care and consideration for the traveling public as shown in the plans. The Contractor shall be alert at all times to any and all deficiencies in the placement and maintenance of any traffic control devices and shall take immediate action to correct any deficiencies.

Prior to commencing work in the vicinity of any existing Traffic Control Devices, the Contractor shall coordinate with the Traffic Operations Section for devices which need to be removed or relocated to accommodate the work. The Contractor shall store all devices in a safe and secure manner throughout the period of work and assume responsibility for temporary devices if necessary. Existing traffic control devices shall not be removed without the Engineer's approval. The Contractor shall maintain a stock of spare lights, signs, devices, and repair parts at the project site for immediate emergency replacement or repairs.

The Contractor shall remove conflicting permanent pavement markings as shown in the plans or as required by the Engineer. Temporary markings no longer needed shall be removed prior to opening to traffic.

Upon completion of the work in the vicinity of the previously removed Traffic Control Devices, the Contractor shall reinstall the devices as they were. Any Traffic Control Devices damaged during

15.04 TRAFFIC CONTROL DEVICES (Continued)

removal, relocation, storage, or reinstallation shall be repaired or replaced by the Contractor at their expense. The Contractor is responsible to prove if any devices were damaged prior to removal.

The removal, relocation, storage, and reinstallation of existing devices shall not be paid for separately, but shall be considered as incidental to the project.

The Contractor shall mow or trim vegetation to insure that the complete visibility of signs, barricades, and other warning devices is maintained at all times.

All lights on traffic control devices shall be turned on during periods of darkness. Lenses shall be kept clean, and light intensity shall be such that the device is visible as per MUTCD.

Sand bags shall be used at all times in an approved manner, to secure all devices in an position for the public to observe.

15.05 TRAFFIC CONTROL FLAGGING

IMSA or ATSSA Certified flaggers are required.

Traffic movements through temporary lane closures on roads with one lane, two way traffic shall be controlled by flaggers. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. Flaggers shall position themselves appropriately and according to MUTCD flagging procedures.

Flagger(s) shall be used when any construction equipment or personnel may occasionally encroach upon roadway. Flagger(s) shall be used when equipment is moving in or out of work zones.

Flagger(s) shall be properly attired with vest, head gear and stop/slow paddles. They shall be provided properly installed advance warning signs, and they shall be otherwise equipped in accordance with the requirements of the MUTCD.

15.06 ACCESS TO ADJACENT PROPERTIES

The Contractor shall notify all affected adjacent properties a minimum of 48 hours prior to restricting normal access from public streets to adjacent properties. The Contractor shall inform each resident and/or property owner of the nature of the access restriction, the approximate duration of the restriction, and the best alternate access route for that particular property. Any closure of access to or from adjacent property shall be submitted to the Engineer and approved prior to implementation. The Contractor shall minimize the duration of access restrictions.

15.07 OPENING TO TRAFFIC

Before opening any portion of the public streets to vehicles or pedestrians, the Contractor shall restore the pavement, reset all signs, and restore all pavement markings. If necessary, a temporary surface and temporary pavement markings shall be placed as per the Engineer at the Contractor's expense.

15.08 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Payment for Traffic Control and Work Zone Safety items shall be made either under the lump sum or each per day pay item for "Traffic Control for Construction."

LUMP SUM: When Traffic Control is shown as a Lump Sum item in the bid schedule, it shall be the responsibility of the Contractor to determine the Traffic Control needs for the project, including all devices and personnel, and to develop the bid amount accordingly. This payment includes the TCS, the TCD, the TCP, set-up, maintenance, removal, and any traffic control devices required. Payment shall be made as a percentage of the Traffic Control Lump Sum amount equal to the percent-complete-to-date of the balance of the total contract amount. In no case shall the total amount paid for Traffic Control exceed the Lump Sum shown in the bid schedule. Payment is full compensation for all work prescribed in this Section.

EACH PER DAY: When Traffic Control is bid on the Each Per Day method, individual traffic control items will be paid for based on the maximum number of each device used during the course of the day's construction work. These amounts shall include the cost of the TCS, the TCD, the TCP, set-up, maintenance, and removal. Traffic Control must be installed in accordance with the plans or as directed by the Engineer.

The quantity of items for payment shall be the number of devices in place multiplied by the number of calendar days that the respective devices are in place. A calendar day for traffic control devices shall be defined as the 24-hour period from midnight to midnight, or any portion of it, when the device is installed and maintained.

Payment will not be made for those calendar days when devices are not in use, such as for folded signs, temporarily covered signs, signs temporarily positioned so that the message is not readable by the traveling public or devices placed along the roadway that are not necessary for proper traffic control.

Each sign shall be paid for separately, even if more than one sign is installed on the same post or device. Signs shall be classified and paid for based on area of the sign face: Small Work Zone Sign is less than 4 square feet, Medium Work Zone Sign is 4 square feet to less than 9 square feet, and Large Work Zone Sign is 9 square feet or greater. The price for work zone signs shall include posts, mounting hardware, banding material or anything else needed to accomplish the work.

Type III barricades shall be measured for payment by the number of calendar days each Type III barricade is in place and positioned as shown in the plans or as directed by the Engineer. Lighting on barricades is required and included in the cost of barricades.

Type II Barricades shall also include the use of reflectorized drums or vertical panels. Vertical panels will be paid at ½ the contract unit price for Type II Barricade. Lighting on barricades is required and included in the cost of barricades.

Payment for any traffic control device paid for by the day will not extend beyond the last working day or calendar day allowed by the contract. Payment will be made for any approved extension of the contract time allowance. Beyond the end of the contract time and any extensions, the traffic control devices paid by the day that are required shall remain in service at no cost to the City.

15.08 METHOD OF MEASUREMENT AND BASIS OF PAYMENT (Continued)

Flagging will be measured for payment for each flagger location on a daily basis. Operation of one flagger for 4 hours or less will be considered as one-half day and operation for more than 4 hours will be considered as one full day. This price shall be full compensation for furnishing properly trained, attired, and equipped flaggers, for furnishing, installing, maintaining and removing proper signs per flagger situation and for all labor, tools, equipment, material, and incidentals necessary to complete the work.

Concrete Protection Barrier is measured by the length in feet based on the nominal length of the individual units. The pay item Relocate Concrete Protection Barrier applies to repositioning the concrete protection barrier for subsequent phases of construction. These relocations shall be measured by the length of the concrete barriers so relocated based on the nominal length of the individual units.

Temporary Pavement Markings shall be measured by the linear feet of each line applied. Gaps are not measured for payment. Maintenance of temporary pavement markings is subsidiary to the appropriate pay item. Maintenance includes replacement of lines worn by traffic or covered by surfacing material or any other substance. The Project Manager will determine when the lines are no longer effective and direct the Contractor to replace the lines at no additional cost to the City. Temporary marking removal is subsidiary to the pay item.

Flashing arrow panels are measured by each calendar day they are in use.

Warning Lights shall not be measured separately but shall be subsidiary to the device with which they are installed.

Pavement Marking Removal shall be measured by the linear foot along the line for each permanent (not “temporary”) line removed.

Grabber Cones and Tubular Markers are measured by the maximum amount in use at any one time. Cones used that are less than 42" in height will not be paid for, but shall be subsidiary. The repositioning, re-attachment, removal, and/or replacement of a cone or tubular marker is subsidiary to the pay item.

15.09 NON-COMPLIANCE

Failure to comply with any of the requirements for safety and traffic control of this contract shall result in suspension of work and/or Payment Reduction for Non-Compliance. The Contractor may be given notice, either written or verbal, of failure to install, replace, remove, or maintain a traffic control device. Upon notification by the Engineer, the Contractor shall respond to any site and take immediate steps to correct the deficiency.

Failure to install, replace, remove, or maintain a device in a timely manner as determined by the Engineer shall result in no payment being made for any traffic control devices on the project until the requested installation, replacement, removal, or maintenance is performed. The Engineer may also suspend all other work until the problem is corrected. The Engineer may elect at any time to correct a traffic control deficiency and bill the Contractor for all costs necessary to correct the problem.

15.09 NON-COMPLIANCE (Continued)

Any action on the part of the Contractor which results in non-compliance with the approved TCP and/or the requirements of this section may be cause for reduction in payment. Non-compliance shall include failure to have the TCP on the job site at all times and failure to be able to produce the TCP upon request.

The payment shall be reduced by an amount equal to the Traffic Control Lump Sum amount divided by the total number of contract days as stated in the bid documents multiplied by the number of days when the Contractor is not in compliance with the approved TCP and/or the requirements of this section. In no case shall the amount of the reduction in payment per day be less than 1 percent of the total contract amount for Traffic Control.

15.10 DYNAMIC MESSAGE SIGNS

The Contractor shall be required to furnish, install and maintain Dynamic Message Signs (DMS) to alert traffic to the construction and traffic configuration during the various construction phases of the project. The DMS will be placed a minimum of 5 calendar days in advance of the disruption or shifting of traffic through the work zone or as directed by the Engineer. The signs shall be left up for at least 3 calendar days once construction has begun to inform the public of the current traffic configuration. Sign placement shall be shown on the TCP for each phase of the construction and must be approved by the Engineer. All messages displayed on the signs shall be approved by the Engineer.

The Contractor shall check messages at least twice per day to verify the message is readable and accurate.

High visibility cones shall be placed at each corner of the DMS when it is in or near the roadway.

Basis of Payment for Dynamic Message Sign shall be a fixed cost item and will be paid at the set contract unit price per day for the each item. Such payment shall be full compensation for furnishing, placement, maintenance, removal and all other incidentals required to provide fully operational DMS.